

Title:

PHENIX results on J/ψ production in Au+Au and Cu+Cu collisions at $\sqrt{s_{NN}} = 200$ GeV

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Abstract:

Heavy quarkonia production is predicted to be sensitive to the formation of the quark gluon plasma in relativistic heavy ion collisions via competing mechanisms such as color screening and/or quark recombination. The PHENIX collaboration has measured J/ψ decay into lepton pairs in Au+Au and Cu+Cu collisions at $\sqrt{s_{NN}} = 200$ GeV. The nuclear modification factor R_{AA} for the J/ψ is obtained by comparing Au+Au or Cu+Cu collisions to p+p collisions. The R_{AA} dependence over centrality, transverse momentum and rapidity will be presented both at forward rapidity ($1.2 < |\eta| < 2.2$) using $J/\psi \rightarrow \mu^+\mu^-$ and at mid rapidity ($|\eta| < 0.35$) using $J/\psi \rightarrow e^+e^-$. It will be compared to theoretical predictions and to results obtained from collisions with lighter nuclei.